

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on page 12, line 14 with the following amended paragraph:

~~As shown in Figure 3, e~~Each link between the nodes in a SONET ring is of a fixed bandwidth. The smallest increment of data transmission is VT-1.5, which provides 1.7 Mbps of bandwidth, however, in general SONET applications, the smallest practical increment of data transmission used is STS-1 that provides 51.84 Mbps of bandwidth between nodes. The layer 2 cells, such as ATM cells are mapped onto the SONET layer using the STS frames or channel. Multiple STS-1 frames can be joined together to form concatenated STS frames as illustrated in Figure 3. For example, combining three STS-1 frames creates an STS-3c frame, where the "c" suffix designates a concatenated STS-3 frame.

Please replace the paragraph beginning on page 16, line 16 with the following amended paragraph:

In one embodiment of the present invention, the logical SONET ring provisioning mechanism for assigning protection and bandwidth characteristics to different groups of STS frames is provided in one or more network nodes

that implement SONET, ADM, DCS, or Frame Relay switching functionality, or any combination thereof. Figure 5 illustrates a SONET network element that implements a logical ring partitioning mechanism, according to one embodiment of the present invention. In system 500, a SONET signal is received and transmitted by an optical network card 502. The optical card provides section termination, line termination, and other signal processing for the received SONET signals. The optical card then transmits a number (N) of bi-directional STS ~~lines~~signals 504, depending upon the size of the SONET frame transmitted through the node. The STS ~~lines~~signals are then transmitted through a cross-connect circuit 508. Cross-connect circuit 508 is a NxN cross connect corresponding to the N STS signals output from optical card 502. The cross-connect circuit 508 serves to map the appropriate STS signals to their proper switch, depending upon the type of network traffic the STS signals are carrying. ATM signals are routed to an ATM switch 512, and Frame Relay signals are routed to a Frame Relay switch 514. The cross-connect circuit 508 includes functionality to serve as a TDM switch. It will be appreciated that other types of STS signals and hardware switches other than those illustrated in Figure 5 may also be provided. In one embodiment, the cross-connect circuit 508 and switches 512-514 are provided in a control card 520 coupled to the first and second optical cards 502 and 518. Typically, the

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three cards 502, 520, and 518 are implemented in the form of computer circuit boards in rack mount system comprising the network node.